

Amendments to the Claims

For the Examiner's convenience, this Amendment and Request for Reconsideration includes the text of all claims under examination.

This listing of claims will replace all prior versions, and listings, of claims in the application: Please cancel claims 1-15 without prejudice or disclaimer.

Listing of Claims

1.-15. (Canceled).

16. (New): An illumination apparatus for illuminating a mask that has a pattern, said illumination apparatus comprising:

a chamber for generating a reduced pressure environment;

a mirror, located in the reduced pressure environment in said chamber, for condensing an EUV light from an emission point of the EUV light;

a fixing shaft that is fixed onto the mirror;

a lid that is openably provided on a wall of the chamber;

an elastic member for connecting the lid with the mirror; and

an element, accommodated in the chamber independently of from the chamber,

wherein said elastic member presses the fixing shaft against the element, and positions six axes direction of the mirror.

17. (New): An apparatus according to claim 16, further comprising a cooling plate, connected to the mirror and arranged between the lid and the mirror, for cooling the mirror.

18. (New): An apparatus according to claim 16, further comprising a cooling tube, located between the lid and the mirror, for providing coolant to said cooling plate via the lid.

19. (New): An apparatus according to claim 17, wherein said elastic member is connected to said cooling plate and the mirror via said cooling plate.

20. (New): An apparatus according to claim 17, wherein said fixing shaft includes three first fixing shafts connected to the mirror,

wherein the element includes three second fixing shafts engaged with said first fixing shafts and provided in the chamber, and

wherein one of the first and second fixing shafts has a spherical tip, and the other have a V-shaped groove tip, a cone groove tip, or a flat tip.

21. (New): An apparatus according to claim 16, wherein said elastic member is directly or indirectly connected to the mirror.

22. (New): An apparatus according to claim 17, wherein said elastic member is connected to the lid and the cooling plate that is connected to the mirror.

23. (New): An apparatus according to claim 17, wherein said elastic member is connected to the lid and the fixing shaft.

24. (New): An exposure apparatus comprising:

an illumination optical system for illuminating a mask that has a pattern using an EUV light from an emission point; and

a projection optical system for projecting a light from the mask onto an object, wherein said illumination optical system includes:

a chamber for generating a reduced pressure environment;

a mirror, located in the reduced pressure environment in said chamber, for condensing the EUV light from the emission point;

a fixing shaft that is fixed onto the mirror;

a lid that is openably provided on a wall of the chamber;

an elastic member for connecting the lid with the mirror; and

an element, accommodated in the chamber independently of from the chamber, wherein said elastic member presses the fixing shaft against the element, and positions six axes direction of the mirror.

25. (New): An apparatus according to claim 24, further comprising a cooling plate, connected to the mirror and arranged between the lid and the mirror, for cooling the mirror.

26. (New): An apparatus according to claim 24, further comprising a cooling tube, located between the lid and the mirror, for providing coolant to said cooling plate via the lid.

27. (New): An apparatus according to claim 24, wherein said elastic member is connected to said cooling plate and the mirror via said cooling plate.

28. (New): An apparatus according to claim 24, wherein said elastic member is directly or indirectly connected to the mirror.

29. (New): An apparatus according to claim 24, wherein said elastic member is connected to the lid and the cooling plate that is connected to the mirror.

30. (New): An apparatus according to claim 24, wherein said elastic member is connected to the lid and the fixing shaft.

31. (New): A device manufacturing method comprising steps of:
exposing an object to an image of a pattern of a mask using an exposure apparatus as defined in claim 24; and
developing the exposed object.

32. (New): An exposure apparatus comprising:
an illumination optical system for illuminating a mask that has a pattern using an EUV light from an emission point; and
a projection optical system for projecting a light from the mask onto an object,
wherein said illumination optical system includes:
a chamber for generating a reduced pressure environment;
a mirror, located in the reduced pressure environment in said chamber, for
condensing the EUV light from the emission point;
a lid that is openably provided on a wall of the chamber; and an elastic
member for connecting the lid with the mirror.

33. (New): An apparatus according to claim 32, wherein said elastic member
is directly or indirectly connected to the mirror.

34. (New): A device manufacturing method comprising steps of:
exposing an object to an image of a pattern of a mask using an exposure apparatus
as defined in claim 32; and
developing the exposed object.